NTP TECHNICAL REPORT

ON THE

TOXICOLOGY AND CARCINOGENESIS

STUDIES OF

MOLYBDENUM TRIOXIDE

(CAS NO. 1313-27-5)

IN F344/N RATS AND B6C3F₁ MICE

(INHALATION STUDIES)

NATIONAL TOXICOLOGY PROGRAM P.O. Box 12233 Research Triangle Park, NC 27709

April 1997

NTP TR 462

NIH Publication No. 97-3378

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health

FOREWORD

The National Toxicology Program (NTP) is made up of four charter agencies of the U.S. Department of Health and Human Services (DHHS): the National Cancer Institute (NCI), National Institutes of Health; the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health; the National Center for Toxicological Research (NCTR), Food and Drug Administration; and the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control. In July 1981, the Carcinogenesis Bioassay Testing Program, NCI, was transferred to the NIEHS. The NTP coordinates the relevant programs, staff, and resources from these Public Health Service agencies relating to basic and applied research and to biological assay development and validation.

The NTP develops, evaluates, and disseminates scientific information about potentially toxic and hazardous chemicals. This knowledge is used for protecting the health of the American people and for the primary prevention of disease.

The studies described in this Technical Report were performed under the direction of the NIEHS and were conducted in compliance with NTP laboratory health and safety requirements and must meet or exceed all applicable federal, state, and local health and safety regulations. Animal care and use were in accordance with the Public Health Service Policy on Humane Care and Use of Animals. The prechronic and chronic studies were conducted in compliance with Food and Drug Administration (FDA) Good Laboratory Practice Regulations, and all aspects of the chronic studies were subjected to retrospective quality assurance audits before being presented for public review.

These studies are designed and conducted to characterize and evaluate the toxicologic potential, including carcinogenic activity, of selected chemicals in laboratory animals (usually two species, rats and mice). Chemicals selected for NTP toxicology and carcinogenesis studies are chosen primarily on the bases of human exposure, level of production, and chemical structure. The interpretive conclusions presented in this report are based only on the results of these NTP studies. Extrapolation of these results to other species and quantitative risk analyses for humans require wider analyses beyond the purview of these studies. Selection *per se* is not an indicator of a chemical's carcinogenic potential.

These NTP Technical Reports are available for sale from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161 (703-487-4650). Single copies of this Technical Report are available without charge while supplies last from NTP Central Data Management, NIEHS, P.O. Box 12233, MD E1-02, Research Triangle Park, NC 27709 (919-541-3419). Listings of all published NTP reports and ongoing studies are also available from NTP Central Data Management. The Abstracts and other study information for 2-year studies are also available at the NTP's World Wide Web site: http://ntp-server.niehs.nih.gov.

NTP TECHNICAL REPORT

ON THE

TOXICOLOGY AND CARCINOGENESIS

STUDIES OF

MOLYBDENUM TRIOXIDE

(CAS NO. 1313-27-5)

IN F344/N RATS AND B6C3F₁ MICE

(INHALATION STUDIES)

NATIONAL TOXICOLOGY PROGRAM P.O. Box 12233 Research Triangle Park, NC 27709

April 1997

NTP TR 462

NIH Publication No. 97-3378

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health

CONTRIBUTORS

National Toxicology Program

Evaluated and interpreted results and reported findings

P.C. Chan, Ph.D., Study Scientist

G.A. Boorman, D.V.M., Ph.D.

D.A. Bridge, B.S.

J.R. Bucher, Ph.D.

L.T. Burka, Ph.D.

J.R. Hailey, D.V.M.

J.K. Haseman, Ph.D.

R.A. Herbert, D.V.M., Ph.D.

G.N. Rao, D.V.M., Ph.D.

J.H. Roycroft, Ph.D.

G.S. Travlos, D.V.M.

D.B. Walters, Ph.D.

K.L. Witt, M.S., Oak Ridge Associated Universities

Hazleton Laboratories America, Inc.

Conducted 14-day and 13-week studies, evaluated pathology findings

W.B. Coate, Ph.D., Principal Investigator

R.D. Alsaker, D.V.M., M.S.

R.L. Tacey, B.S.

B.M. Ulland, D.V.M.

Battelle Pacific Northwest Laboratories

Conducted 2-year studies, evaluated pathology findings

B.J. Chou, D.V.M., Ph.D., Principal Investigator

B.J. Greenspan, Ph.D.

T.J. Mast, Ph.D.

R.A. Miller, D.V.M., Ph.D.

Experimental Pathology Laboratories, Inc.

Provided pathology quality assurance

J.F. Hardisty, D.V.M., Principal Investigator M. Wells, D.V.M.

Dynamac Corporation

Prepared quality assurance audits

S. Brecher, Ph.D., Principal Investigator

NTP Pathology Working Group

Evaluated slides, prepared pathology report on rats (1 August 1995)

P.K. Hildebrandt, D.V.M., Chairperson PATHCO

M.R. Elwell, D.V.M., Ph.D.

National Toxicology Program

R.A. Herbert, D.V.M., Ph.D. National Toxicology Program

A. Radovsky, D.V.M., Ph.D.

National Toxicology Program

R.C. Sills, D.V.M., Ph.D.
National Toxicology Program

M. Wells, D.V.M.

Experimental Pathology Laboratories, Inc.

J.R. Leininger, D.V.M., Ph.D.

Integrated Laboratory Systems

M. Torii, D.V.M., Ph.D., Observer

National Toxicology Program J.D. Trujillo, Observer

North Carolina State University

Evaluated slides, prepared pathology report on mice (31 July 1995)

P.K. Hildebrandt, D.V.M., Chairperson PATHCO

J.R. Hailey, D.V.M.

National Toxicology Program

R.A. Herbert, D.V.M., Ph.D.

National Toxicology Program

A. Radovsky, D.V.M., Ph.D.

National Toxicology Program

M. Wells, D.V.M.

Experimental Pathology Laboratories, Inc.

J.R. Leininger, D.V.M., Ph.D.

Integrated Laboratory Systems

L. Healy, D.V.M.

North Carolina State University

R.C. Sills, D.V.M., Ph.D.

National Toxicology Program

Analytical Sciences, Inc. Provided statistical analyses

R.W. Morris, M.S., Principal Investigator N.G. Mintz, B.S. S. Rosenblum, M.S.

Biotechnical Services, Inc.

Prepared Technical Report

S.R. Gunnels, M.A., Principal Investigator J.R. Carlton, B.A. L.M. Harper, B.S. D.C. Serbus, Ph.D.